Quality Control

NCR:	Yes	1	No

											DQA:	Date	:
NCR:	Yes	/ No				WORK ORDER NON-	CON	FORM	MANCE / UPI	DATE	•		•
									· · · · · · · · · · · · · · · · · · ·		QA Closed:	Date	:
Nork Orde	er:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part I						Rework Scrap Use-as-is Work Order Update		Therm	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	- 1	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root					Desc	cription of work order update	ln	itial	Act	tion	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Chie	ef Eng	Descr	ription	Date	Verification	QC Inspector
oc/Data quip/Tooling perator Material etup other rocess upplier raining napproved							**						
						<u> </u>	AULT	CATE	GORY				
Landi		Gear Bending Centre No Cracks Crushed/ Cuffs Heat Trea Inspection	Crimped.		D/S	General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short		nstruct Mainte Mislabe	on Incomplete ions Incomplete/U nance led	Unclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V	ct issing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled
		Ripples in	-	Tube	F	Drill Holes	$\boldsymbol{\vdash}$	Misread Offset	ı	L	Power Loss/	ourge	Other

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

NCR:	Yes	No

NCR: (res No				WORK ORDER NON-C	ONFOR		QA Closed:	Date:	(3/7/8
Work Orde	er: 9	5937	₹		DISPOSITION		AGAINST DEF	PARTMENT	/PROCESS	
	10. D 3		_		Rework Scrap		Skid-tube Crosstube Small Fab		Water Jet d. Eng. Coor.	Engineering Quality
NCR N	10. <u>13</u>	- 28	<u>Ol</u>		Use-as-is Work Order Update	Thern	noforming Finishing Large Fab Composite	Rec/Stor	re/Packaging Supplier	Other
Root				Descri	ption of work order update	Initial	Action	Sign &		
Cause	Date	Step	Qty	•	or Non-conformance	Chief Eng	Description	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process	13/03/26	ho	2	U		025 032042 13/05/13	Stop Possing on school Deburing machine Deburing machine Machine	81, 13/21/26	15 3 26	057042 057042 05/05/13
Supplier Training Unapproved				bteu	shur on debums	V:	Debury many Deburby			(5/6/15
				GRA		AULT CATE	GORY hand.			
Landir	Bending Centre N Cracks Crushed/ Cuffs Heat Treat Inspection Ripples in Torque V Turning S	Crimped at in Strip in in Bend Vaves in E Sequence	Tube		General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing Finish	Instruct Mainte Mislabe Misread Offset Out of 9	ion Incomplete tions Incomplete/Unchar enance eled d Calibration	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ct sissing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
į	Wave/Tw	vist in Tul	oe -		Folio	Outside	e Dimensions			

Work Order ID 95938 Page 3 January-21-13 10:11:37 AM Item ID: D2175-2 Accept *N900040100* Setup Start Revision ID: Item Name: Angle RH **Start Date:** 1/28/13 Start Qty: 6.00 **Cust Item ID:** Required Date: 1/28/13 **Req'd Qty:** 6.00 **Customer:** Reference: Run Start Process Plan: Approvals: Date: Tooling: Date: Stop QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Tool ID Tool # Plan Accept Reject Reject Set Up/ Insp. Work Center ID **Description** Qty Number Stamp Code **Run Hours** Qty 15Ò QC5- Inspect part completeness to step on W/O 0.00 *150* Memo Quality Control 160 Chemical Conversion Coat per QSI005 4.1 0.00 *160* HandFinish 0.00 Memo Hand Finishing QC7-Inspect Chemical Conversion Coat 0.00 170 16 13-5-8

0.00

Memo

Quality Control

NCR:	Yes	No
	"	

WORK ORDER NON-CONFORMANCE / UPDATE

	,		
	DQA:	Date:	
	QA Closed:	Date:	
ST DE	PARTMENT,	/PROCESS	
be ab mg ite	1	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
	Sign & Date	Verification	QC Inspector
	W/W/	SW)	082042 Blodlog
101			

									QA Closed:	Date:	
Work Order:	9	595	38		DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part No.	D	2175	5-2		Rework Scrap V Use-as-is Work Order Update	The	Skid-tube Machining rmoforming Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root Cause	Date	Step	Qty		ption of work order update	Initial Chief En	l .	tion ription	Sign & Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator	Rhalor		·Q·	Found that in the R.C. P incord	parts Are cracles Beros. At were Passes Though Deburmachi direction were woong way	(0AS 16 25 0>20-8 0>20-8	Scrap+ Desty Ner Desty Ner cut you	m 123701	W/W/ 13.04.21	SM) B409	082042 Blodlog
	-					ULT CAT	EGORY				
Landing (Gear			_	General ,			<u>, </u>	7	_	٦
	Bending Centre No Cracks		ntric to	o/s	Bend BOM/Route Broken/Damaged	→ `	vare ction Incomplete		Ovalized Over/Under Part Incorre	ct	Pressure/Forced Temperature/Cure Weld
1 —	Crushed/0 Cuffs	Crimped.			Burrs Contamination		ctions Incomplete/I tenance	Unclear	Part Lost/Mi Part Moved	issing	Wrong Stock Pulled
—	Heat Trea		Tube		Countersink Cut Too Short	Misla			Positioned V		Other
. —	Ripples in	•	rube		Drill Holes	Offse			Trower ross/	Juige	Tomer
	Torque W	aves in E	xtrusio	n 🗀	Drawing	Out o	f Calibration				
Turning Sequence					Finish	Out o	f Sequence				
	Wave/Tw	ist in Tub	e		Folio	Outsi	de Dimensions				

0.00

Memo

QC

Quality Control

N3.05-9

DQA: _____Date: _____

NCR:	Yes /	No
14011.	163 /	110

WORK ORDER NON-CONFORMANCE / UPDATE

				`					QA Closed:	Dat	e:
Work Order	-•				DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part No					Rework Scrap Use-as-is	Ther	Skid-tube Machining moforming	Crosstube Small Fab Finishing	4	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR No	D		 ,		. Work Order Update		Large Fab	Composite]	Supplier	
Root				Descri	ption of work order update	Initial	A	ction	Sign &		
Cause	Date	Step	Qty		or Non-conformance	Chief En	g Des	cription	Date	Verification	QC Inspector
Ooc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training											
Unapproved	_1		<u> </u>		F	L AULT CAT	<u> </u> FGORY		<u> </u>	<u>i</u>	
Landing	g Gear			 -	General						
	Bending Centre No Cracks Crushed/ Cuffs Heat Trea Inspection Ripples in Torque W	Crimped. et n Strip in Bend Vaves in E	Tube		Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing	Instruction Maintender Mislatender Misred Offset Out of	tion Incomplete ctions Incomplete cenance peled ad	/Unclear	Ovalized Over/Under Part Incorre Part Lost/M Part Moved Positioned \(\) Power Loss/	ct issing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
-	Turning S Wave/Tw				Finish Folio	_	Sequence le Dimensions				

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· Picklist Print

January-21-13 10:11:37 AM

Work Order ID:

95938

Parent Item:

D2175-2

Parent Item Name:

Angle RH

Start Date: 1/28/13

Required Date: 1/28/13

Page 1

Start Qty: 6.00

Required Qty: 6.00

Comments:

IPP E04.06.09ReformatKJ/RF

IPP Rev:F 06-04-28 Manufactured on Water Jet JLM

PP Rev:G As per Rev E 06-11-22 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.063		Purchased	No			100	sf	212.7400	0.4722	2.9823156	11	19 W	25
2024-T3 .063 sheet											- MI	18 02	ഷാ
				Location		Loc Qty	Lo	c Code			W	13.04	.21
				MAT022		212.74						, -	•
				1199	16	0.2				 			
				1211	97	21.34							
				1230	96	11.4							
				1236	54	12.8							
				1237	01	167							

												DQA:	Date	:
NCR:	/es	/ No					WORK ORDER NON-C		NFORM	AANCE / UP	DATE			<u> </u>
												QA Closed:	Date	:
Nork Ord	er:						DISPOSITION				AGAINST DE	PARTMENT	PROCESS	
Part 1							Rework Scrap Use-as-is		t	Skid-tube Machining Moforming	Crosstube Small Fab Finishing	4	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR I	۱o.				. , ,		Work Order Update]		Large Fab	Composite]	Supplier	
Root					Des	cri	otion of work order update		nitial	Ac	tion	Sign &		
Cause		Date	Step	Qty		-	or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector
oc/Data														
quip/Tooling														
perator			·											
1aterial							•							
etup														
ther														
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upplier														
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napproved														
							F	AUL	T CATE	GORY				
Landi	ng (Sear				_	General	_				_	_	
		Bending				<u> </u>	Bend	<u></u>	Grain			Ovalized		Pressure/Forced
		Centre No	ot Conce	ntric to	-	<u> </u>	BOM/Route	oxdot	Hardwa	re		Over/Under	tolerance	Temperature/Cure
		Cracks			*	<u> </u>	Broken/Damaged	L	4 '	on Incomplete		Part Incorre	ct	Weld
		Crushed/0	Crimped.			L	Burrs		Instruct	ions Incomplete/	'Unclear	Part Lost/M	issing	Wrong Stock Pulled
		Cuffs				L	Contamination		Mainte	nance		Part Moved		
		Heat Trea	it				Countersink		Mislabe	led		Positioned V	Vrong _	_
,		Inspection	n Strip in	Tube			Cut Too Short		Misread	1		Power Loss/	Surge	Other
		Ripples in	Bend				Drill Holes		Offset					
		Torque W	aves in E	Extrusio	n		Drawing		Out of (Calibration			•	
		Turning S	equence				Finish		Out of s	Semilence				

Outside Dimensions

Wave/Twist in Tube

Folio

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DART AEROSPACE LTD	Work Order:	95938
Description: Angle	Part Number:	D2175-1/-2
Inspection Dwg: D2175 Rev: E		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
12.650	+/-0.010	12.650	/		1	MM- 02
R0.35	+/-0.030	RO.35	1		RG	
2.915	+/-0.010	2.925	√		V	MM-01
50°	+/-0.5°	50	√		AF.	1.1.01
0.300	+/-0.010	0.304	✓		V	
1.050 Pitch	+/-0.010	1.050	1		V	
10.500	+/-0.010	10.500	√		T	
11.550	+/-0.010	11.550	√		7	
0.550	+/-0.010	0.553	√		V	
0.900	+/-0.010	0905	√		·	
0.063 thick	+/-0.010	0.064	/		V	
Grain Direction	N/A		√		· · · · · · · · · · · · · · · · · · ·	
Ø0.128	+0.005/-0.001	0.127	V		$\sqrt{}$	
Ø0.172	+0.005/-0.001	0.171	✓		V	
			-An			

Measured by:	Mod	Audited by:	40	Prototype Approval:	N/A
Date:	13.03.25	Date:	13325	Date:	N/A

A 04.08.12 New Issue KJ/JLM B 07.03.23 Dimensions revised per Dwg rev. E KJ/JLM	Rev	Date	Change	Revised by	Approved
B 07.03.23 Dimensions revised per Dwg rev. E K.I/.II M ///	_ A	04.08.12	New Issue	KJ/JLM	1
110/02/11 O O	В	07.03.23	Dimensions revised per Dwg rev. E	KJ/JLM	adl

DART AEROSPACE LTD	Work Order:	95938
Description: Angle RH	Part Number:	D2175-2
Inspection Dwg: Dal75 Rev: E		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
12.650	+1-0.010	12.650	√		T	JKM-06
RO.35	+1-0.030	R0.35	V		RG	
2,915	71-0-010	2.923			V	JKM-01
50°	+1-0.5°	50'	J		At>	
0.300	+1-0.010	0.300	✓		٧	4
1.050	+1-0.010	1.050	√		V	
10.500	+1-0.010	10.500	/		T	
11.550	+1-0.010	11.550	$\sqrt{}$		T	
0.550	+1-0-010	0.547	1		V	
0.900	+1-0.010	0.902	1		V	
0.863	+1-0.010	0.064	\checkmark		√	
00128	+0.005-0.001	0.128	\checkmark		V	
Ø0.172	+0.005-0.001	0.172	√		٧	
						· · · · · · · · · · · · · · · · · · ·

Measured by:	MM	Audited by: 5km	Preliminary Approval:	
Date:	13.04.21	Date: 13 428	Date:	

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

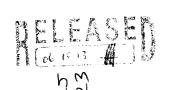
A 10.04.15

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	DESIGN DRAWN BY		DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
ł	CHEC	(ED	APPROVED	DRAWING NO.	REV. E		
ı	l	PH	#	D2175 SHEET	1 OF 1		
Ì	DATE		<u> </u>	TITLE	SCALE		
	06.0	9.25		ANGLE	1:3		
	Α		95.10.25	NEW ISSUE			
	В		96.01.18	CHANGED DIMENSION			
	С		00.09.11	UPDATE FINISH SPEC			
	D		04.06.03	RE-DESIGN			
r							

INC HOLE DIA TO Ø0.172, 4 HOLES



R0.35 (TYP)

#0.172 (4 HOLES)

12.650

2.915

0.821 (TYP)

75 36

0

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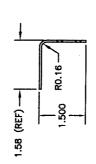
0.550 —

0.900

Ε

0.300

#0.128 (19 HOLES)



06.09.25

D2175—1 BEND DETAIL SHOWN (D2175—2 BENT OPPOSITE)

1) MATERIAL: 2024—T3 (QQ-A-250/4) SHEET 0.063 THICK (REF. DART SPEC. M2024T3S.063)
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) BREAK ALL SHARP EDGES 0.005 TO 0.010
5) ALL DIMENSIONS ARE IN INCHES

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D2175-1F FLAT PATTERN

·11.550 (1.050 PITCH) 10.500 (1.050 PITCH)